User's Manual

For

GeForce4 MX Series

DOC NO: 54-ONV17-01   Rev.A

02/01/16

FCC Requirement

$C\epsilon$

This device has been certified to comply with the limits for a Class B computing device pursuant to Subpart J of Part 15 of the FCC Rules. See instructions if interference to radio reception is suspected.

WARNING: This equipment generates and uses radio frequency energy and, if not installed or used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio or television reception.

It has been tested and found to comply with the limits for a Class B compliant device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation.

However, there is no guarantee that interference-will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the computer away from the receiver
- Move the computer away from the receiver
- Plug the computer into a different outlet so that the computer and the receiver are on different branch circuits
- Ensure that the card's mounting screws, attachment connector screws, and ground wires are tightly secured
- Ensure that slot covers are installed in all unused slots

If necessary, consult your dealer, service representative, or an experienced radio/television Technician for additional suggestions.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. It is the responsibility of the user to correct such interference.

The user may find the following booklet prepared by the Federal Communications Commission helpful:

How to Identify and Resolve Radio-TV Interference Problems.

This booklet is available from the Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

NOTE: You must use shielded interface cables with a ferrite bead in order to maintain compliance with the limits for a Class B device.

CAUTION:	CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT

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1. Introduction

The nVIDIA GeForce4 MX series graphic is the 3D graphics processors and multimedia controller. Its innovative architectures combine, transform, and light technology with a rendering engine that delivers 4 pixels per clock. The nVIDIA GeForce4 MX series graphic not only speed up graphics processing for richer 3D graphics, it also frees up CPU bandwidth, to the computer systems use, by incorporating GeForce4 MX break-through 3D architecture.

nVIDIA GeForce4 MX series graphics controller delivers stunning visual quality and performance, with its 256 bit true-color engine and 32 bit Z/Stencil buffer.

GeForce4 MX series is the only graphics processor able to drive dual digital displays independently delivering the dual-head graphics in a single Board. It's full support 2 analog DVI or DVI and CRT.

1.1 Features

☐ Integrated second-generation transform and lighting engine.
☐ 64/128MB memory DDR or SDRAM on board.
☐ Integrated true-color 350MHz RAMDAC interface.
☐ Supports high screen resolutions up to 2048x1536@60Hz.
☐ Enables two Digital Flat Panel Display to 1280x1024.
☐ 256-bit 2D and 3D graphics architecture.
☐ AGP 2X/4X/8X with AGP Texturing and Fast Writes. (For AGP series product)
☐ 32-bit color ARGB with destination alpha.
☐ Cube environment mapping.
☐ Separate hue, saturation, and brightness controls for the video overlay.
☐ Video DMA for efficient VIP Host operations.
☐ DVD and HDTV- ready motion compensation for MPEG-2 decoding.
☐ OpenGL ICD for full OpenGL support.
☐ Alternate OS support for OS/2, Linux, and BeOS.
☐ Drivers for Windows XP, 2000, ME and 98SE.
☐ 8.8 GB/second memory bandwidth.(For MX460 series product)
☐ 6.4 GB/second memory bandwidth.(For MX440 series product)
☐ 2.7 GB/second memory bandwidth.(For MX420 series product)
☐ 31Mtriangles/sec or higher through T&L and setup.
☐ nVIDIA shading rasterizer (NSR) Featuring.
☐ Fully support PCI Interface. (For PCI series product)
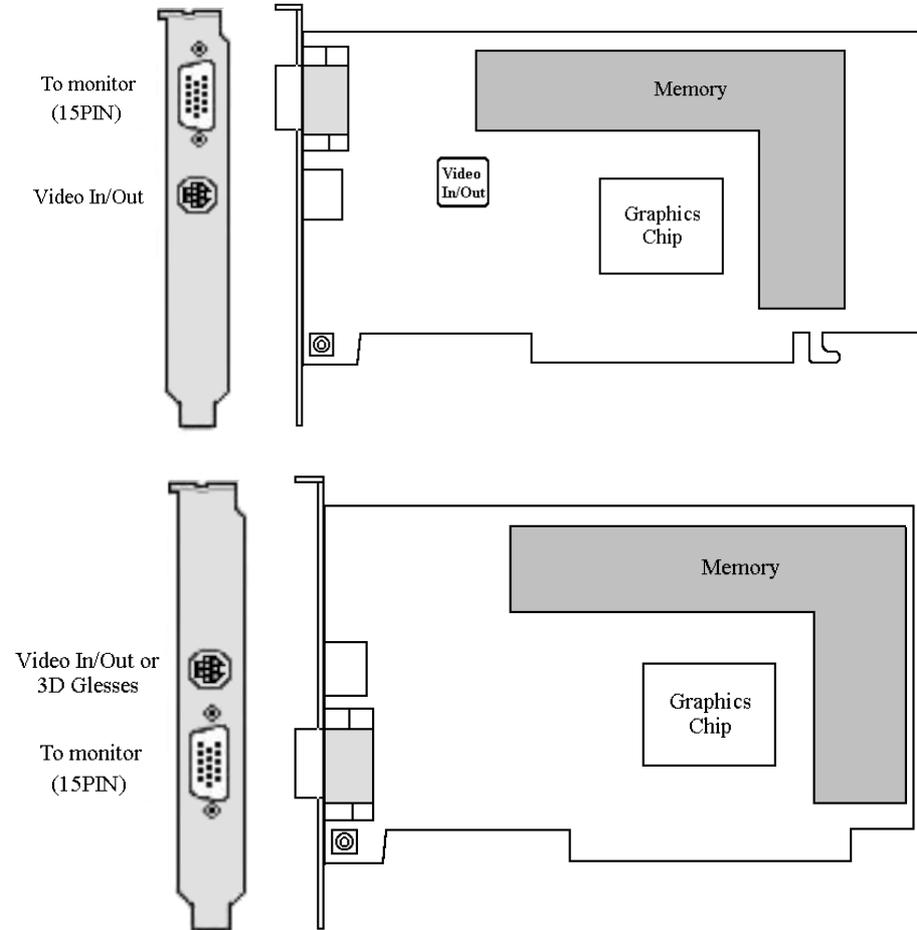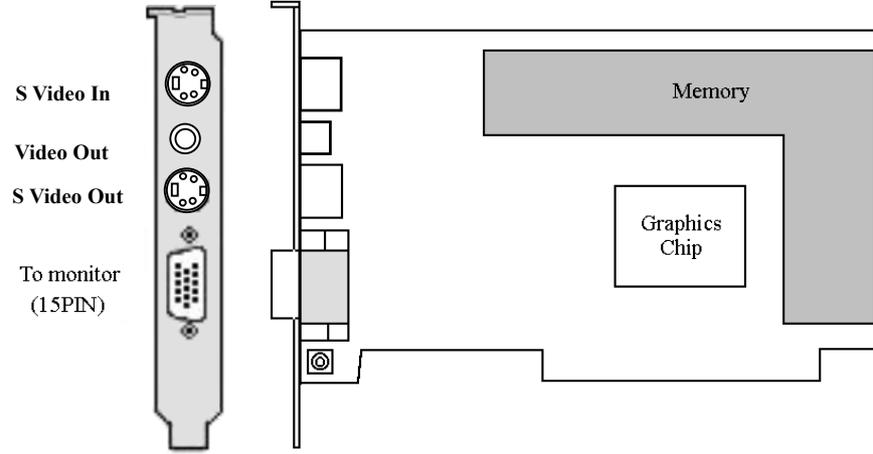☐ Low Profile SPEC. (For Low Profile series product)

1.2 System Requirements

☐ Any motherboard with AGP bus. (For AGP series product)
☐ Any motherboard with PCI bus. (For PCI series product)
☐ Microsoft Windows 98SE / ME / 2000 / XP.
☐ DirectX 8 series and OpenGL Features.

2. Hardware Installation
2.1 Adapter Configuration

VGA with TV-Out

S Video In

Video Out

S Video Out

To monitor
(15PIN)

Memory

Graphics
Chip

Low-Profile VGA with TV-Out

To monitor
(15PIN)

Video In/Out or
3D Glesses

Graphics
Chip

Memory

Low-Profile VGA with TV-Out

Video In/Out or
3D Glesses

To monitor
(15PIN)

Graphics
Chip

Memory
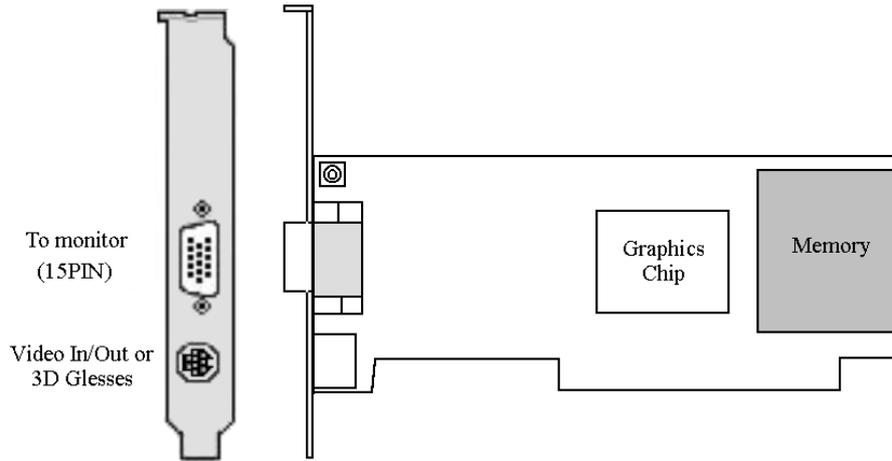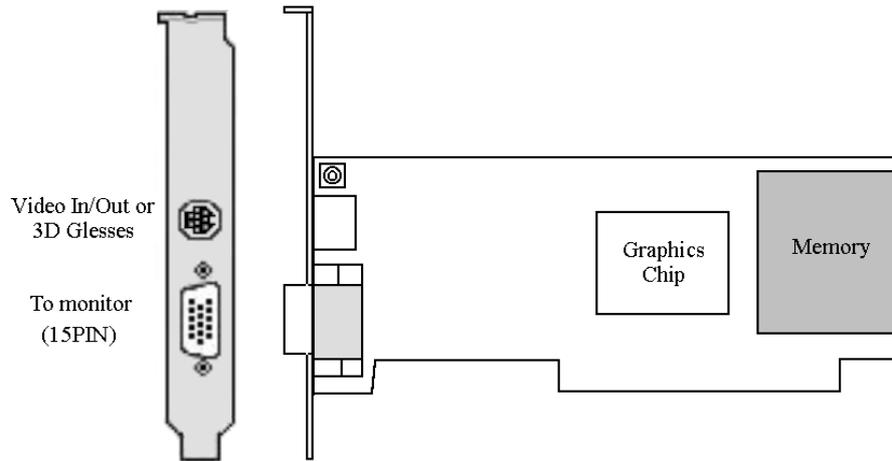
2.2 Installing your VGA adapter

1. Power off your computer, remove its outside cover, and then assert yourself by touching the power supply of your computer.

Note:	Before installing your new VGA card, you must first set the VGA option to either Standard VGA or Standard Display VGA.

2. Remove your old graphics card, and install your new VGA card into the AGP slot.
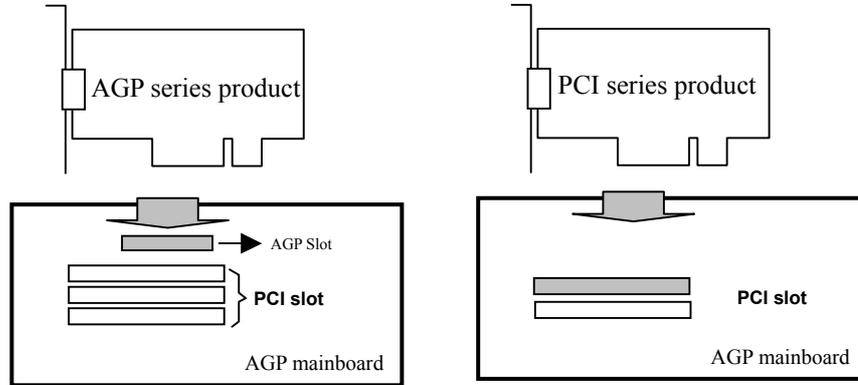
3. Align and secure the mounting bracket of your new VGA card to your computer and replace your computer cover.

4. Connect your monitor cable to the DB-15 connector at your new VGA card.
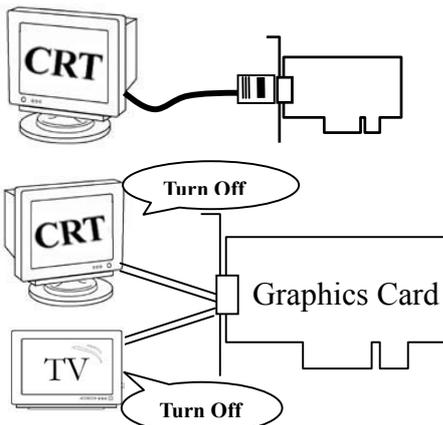
!!! Caution !!!

Before you turn on your system, you have to sure that VGA card setup already and all cables are connected.

DO NOT connect / disconnect TV-out cable when your TV or PC is Power On.

5. Power on your computer.

3. Software Installation

After installing the VGA card in your computer, please turn on your PC, and your computer will be automatically detected.

Notice :	Auto-Run CD will auto-detect your VGA and TV card devices. Therefore, it might show more than one device in the first installing window. Otherwise, Auto-Run CD will skip the first installing window when it only detects one device. Please select one installation of the devices that is proper for this product.

3.1 Installing driver on Windows 98SE/ME

Please set the VGA card as '**Standard PCI Graphics Adapter (VGA)**'. When asked if you want to restart your PC, click 'No'. Then you should follow the next step.

1. Insert the Auto-Run CD-ROM driver (wait few seconds). You will see '**VGA Installer**' window that will be shown on the screen. If it does not display, please browse the CD and double click '**AutoRun.exe**' icon.

2. Click-on '**Install Driver**' to install the VGA driver.

3. After the installation is complete, the system will ask you whether you want to restart your computer now. Click '**Yes**' to reboot your system and activate the program.

3.2 Installing DirectX on Windows 98SE/ME/2000/XP

When the system restart after finishing the VGA driver setup, please install better DirectX version than that on your system.

1. Double click CD-ROM icon to let it auto-run. The '**VGA Installer**' will be shown again.

2. Click '**Install DirectX**' and you will see a '**Installer**' dialog, and click '**OK**' to show next page.

3. Click '**Yes**' to continue.

4. Click-on '**ReInstall DirectX**' to install the DirectX program.

5. When it is done, please click '**OK**' to reboot Windows.

3.3 View User's manual

Click '**User's Manual**' to view detailed information regarding the various Drivers/Programs and FAQ located on the CD.

3.4 Installing driver on Windows 2000/XP

Please set the VGA card as '**Video Controller (VGA Compatible)**'. When asked if you want to restart your PC, click 'No'. Then you should follow the next step.

1. Insert the Auto-Run CD-ROM driver (wait few seconds). You will see '**VGA Installer**' window that will be shown on the screen. If it does not display, please browse the CD and double click '**AutoRun.exe**' icon.

2. Click **'Install Driver'** to install the VGA driver.

3. A. **Windows 2000:**
   If you see **'Digital Signature Not Found'** window, please click **'Yes'**.

   B. **Windows XP:**
   If you see **'Hardware Installation'** window, please click **'Continue Anyway'**.

4. When asked if you want to restart your PC, click 'OK' to finish the installation and reboot your Windows.
   .

3.5 TV-OUT Function Instructions

NOTE:	Before you power on your system, you have to be sure the VGA card is installed already and all the cables are connected to prevent form the card get burnt.

3.5.1 How to enable the TV-OUT function

Warning:	The VGA card needs to see real 75 ohms AV input. Connect the signal cable between TV-OUT of VGA and TV's Video input and turn on the TV before launch '**Display Properties**'. Otherwise the TV-OUT function would be gray and un-selectable.

1. Boot up the system from monitor.

2. To Connect the signal cable between TV-OUT of VGA and TV'S Video input and turn on the TV.

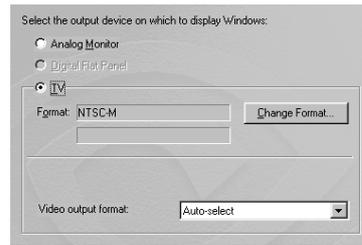3. After launch '**Display Properties**' window then:
    1. Click '**Settings'**
    2. Click '**Advanced**…'
    3. Click '**nView**'
    4. Click '**Device Setting**'
    5. Click '**Select Output Device**'
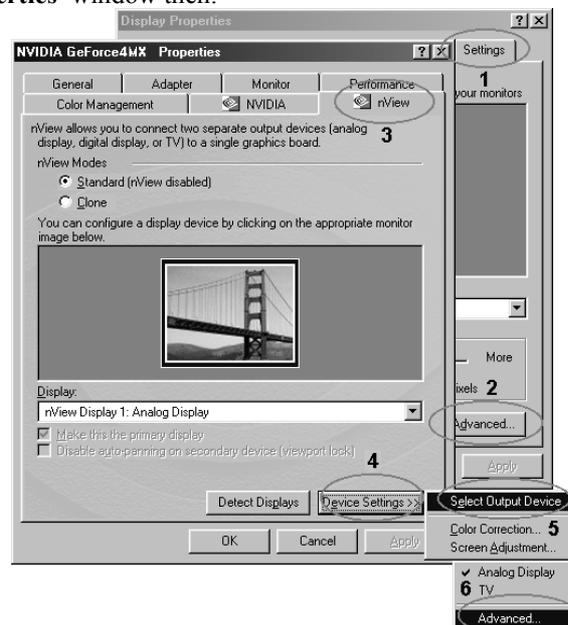
6. Click '**Advanced**'

3.5.2 How to change TV setting?

1. You can click '**TV**' to switch VGA output to TV.

   A. Click '**Change Format**' to select which standard TV you want.

      When you select '**Make this format the power-up default**'; the System will change BIOS default to the format, when you boot-up next time.
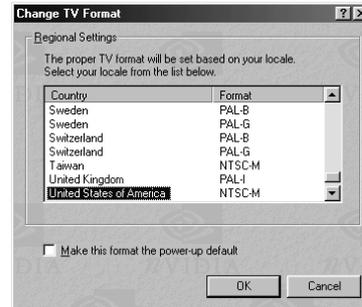
   B. Click '**Video output format**' to select output from Composite or S-Video.

   C. Click '**OK**' to switch your display mode.

3.5.3 How to adjustment screen position?

1. Please open "Output Device" page.

2. When the output of your VGA is set to Monitor, You can click '**Device Setting**' to adjust the screen position

   WARNING:
   The Monitor display may become scrambled if you adjust the screen position over the required range.
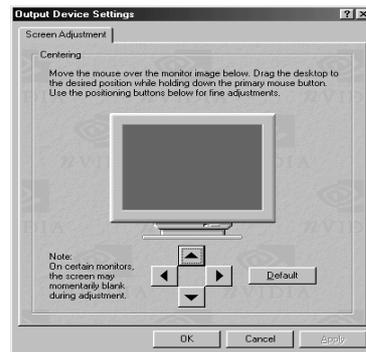
3.5.4 How to change output to Digital Flat Panel?

1. A. You can click 'Digital Flat Panel' to switch VGA output to Digital Flat Panel.
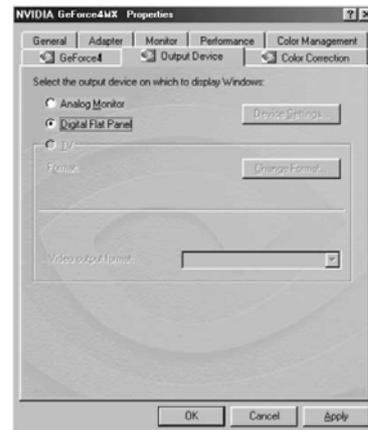
B. Click 'OK' or 'Apply' to switch your display device.

2. Click 'OK' to make sure.

3. Windows will ask you to keep this setting. Click 'Yes' to finish setting.
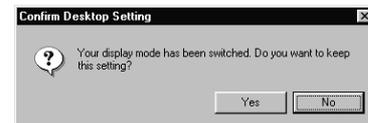
Note : The function is just for output device with DVI connector.

3.6 nView Function instructions
3.6.1 Clone mode

1. A. You can click '**Clone**' to add second device Output of clone.

   B. Click '**OK**' or '**Apply**' to switch your display mode.

2. Windows 98SE will ask you to restart your computer. Please click '**Yes**' to finish switching.

4. Video Mirror Function

4.1.1 Video Mirror mode
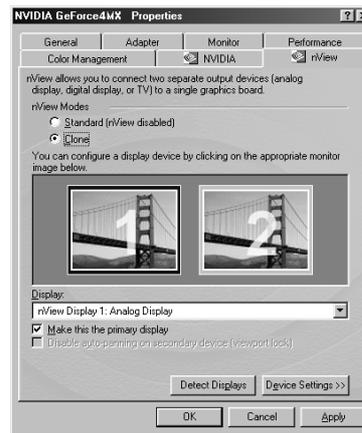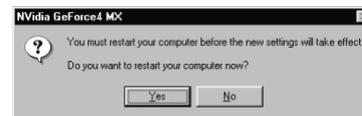
Video Mirror is a nView feature that allows a video or DVD application to mirror its playback in full-screen mode on any one of the connected display devices.

For Video Mirror functionality, set your nView panel to one of these modes:

•**Windows XP/2000 Clone or Windows XP DualView.**
•**Windows 9X/ME Clone or Extended Desktop.**

1. Open the DVD or video application that you want to view.

2. A. Enable Overlay Controls

   B. **Enable video overlay zoom:** Click this check box and click **Apply** to use the Zoom control slider to zoom in (out) on a specific area of the video output (overlay) on your screen. Using the diagram of the screen regions shown on the Overlay Controls panel, you can select the area of the video screen you would like to zoom. Once selected, you can zoom to that portion of the screen by moving the Zoom Control slider between the Out and In range.
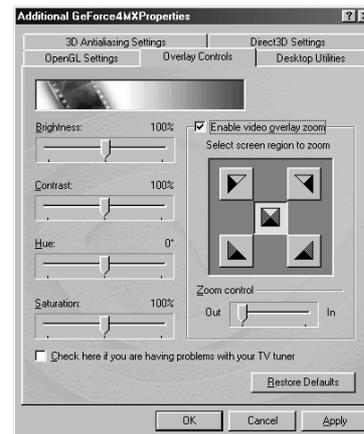
3. Be sure to click **Apply** whenever you make any changes to the control panels. If changes do not take effect (the controls have no effect on the video) after you click Apply, close the video overlay and then re-open it.

5. Color Correction Panel

5.1.1 Color Correction Settings

If you are using a GeForceX GPU-based card, another non-nView nVIDIA GPU-based card, or have not enabled nView on your system yet, **follow these steps:**

- Right click from the Windows desktop to display the context menu, click **Propertie**s, the **Settings** tab, and the **Advanced** button.
- Click the **Color Correction** tab to display the nVIDIA Color Correction panel.

If you are using a nView-based card, have nView enabled, and want to access the Color Control Panel from the nView panel, **follow these steps:**

- Open the nView control panel.
- To access the context menu, right click on a monitor icon that appears on the nView panel.
- Select **Color Correction** from the context menu.

1. Open Color Correction

A. **Active Color Channel:** Allows you to select the color channel controlled by the sliders. You can adjust the red, green or blue channels individually or all three channels at once.

B. **Brightness, Contrast, and Gamma Controls:** The slider controls allow you to adjust the brightness, contrast, or gamma values for the selected color channel.

C. **Diagonal Line/Curve:** A graphical representation of the color curve. This curve will change in real time as you adjust the contrast, brightness or gamma.

D. Selecting **Automatically apply these settings at startup** automatically restores the color adjustments you have made here when Windows is restarted.
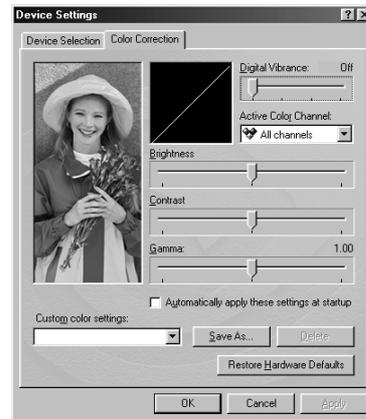
2. **Note:** If your computer is running on a network, the color will be adjusted after you have logged on to Windows.

6. How to Overclock

Warning:	Increasing the hardware clock frequencies beyond the manufacturer's recommended setting may cause system instability and possibly damage the hardware.

6.1.1 Setting Hardware Options Function

1. Choose **'Hardware Options'** in **'Additional Geforce 4 MX Properties'** then enable **'Allow clock frequency adjustments'**.
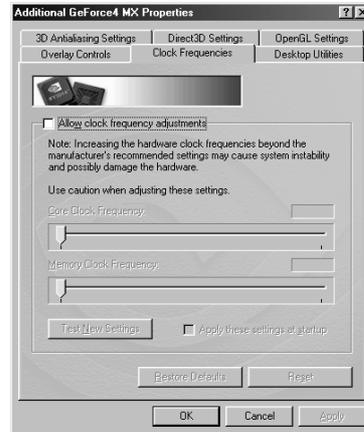
2. Please restart computer .To click '**Restart Now**'.
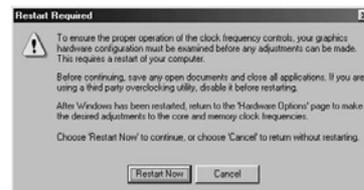
3. After restart computer, please set the clock of '**Core clock frequency**' or '**Memory clock frequency**' that you want in step 1.
   Clicking '**test new settings**' after finish adjust clock to check it can affordable or not.

5. To click '**Apply**' to finish the procedure and you will see this message.

7. Display Information

7.1 Resolutions Supported

Resolutions	Color Depth	Refresh Rate (Hz)												
		60	70	72	75	85	100	120	140	144	150	170	200	240
640 x 480	8bit	60	70	72	75	85	100	120	140	144	150	170	200	240
	16bit	60	70	72	75	85	100	120	140	144	150	170	200	240
	32bit	60	70	72	75	85	100	120	140	144	150	170	200	240
800 X 600	8bit	60	70	72	75	85	100	120	140	144	150	170	200	240
	16bit	60	70	72	75	85	100	120	140	144	150	170	200	240
	32bit	60	70	72	75	85	100	120	140	144	150	170	200	240
1024 X 768	8bit	60	70	72	75	85	100	120	140	144	150	170	200	
	16bit	60	70	72	75	85	100	120	140	144	150	170	200	
	32bit	60	70	72	75	85	100	120	140	144	150	170	200	
1152 X 864	8bit	60	70	72	75	85	100	120	140		150	170		
	16bit	60	70	72	75	85	100	120	140		150	170		
	32bit	60	70	72	75	85	100	120	140		150			
1280 X 960	8bit	60	70	72	75	85	100	120	140		150	170		
	16bit	60	70	72	75	85	100	120	140		150	170		
	32bit	60	70	72	75	85	100	120	140		150			
1280 X 1024	8bit	60	70	72	75	85	100	120	140		150			
	16bit	60	70	72	75	85	100	120	140		150			
	32bit	60	70	72	75	85	100	120						
1600 X 1200	8bit	60	70	72	75	85	100							
	16bit	60	70	72	75	85	100							
	32bit	60	70	72	75	85								
1920 X 1080	8bit	60	70	72	75	85	100							
	16bit	60	70	72	75	85	100							
	32bit	60	70	72	75									
1920 X 1200	8bit	60	70	72	75	85								
	16bit	60	70	72	75	85								
	32bit	60	70	72	75									
1920 X 1440	8bit	60	70	72	75	85								
	16bit	60	70	72	75	85								
	32bit	60	70		75	85								
2048 X 1536	8bit	60	70	72	75									
	16bit	60	70	72	75									
	32bit	60												

8. FAQ

Q: While installing on my PC, my computer loses the Vertical Sync.

A: Please check your monitor's specifications. Some monitors connect the DDC signal to ground: Which causes the BIOS not to detect your monitor. Therefore, causing your nVidia Geforce4 MX graphics card not to receive any data or refresh rates.

Q: The image on my monitor keeps on flickering and the driver can't change the refresh-rate.

A: The problem is due to a failed DDC monitor detection.
To fix the problem:
  1. Chick the right button of mouse in desktop them choose '**Properties**'.
  2. Select '**Settings**' tab
  3. Click '**Advanced Properties**'
  4. Select '**Monitor**' tab
  5. Click '**Change**'
  6. Select '**Show All Devices**' and choose your monitor type. If your monitor type is not listed, please select one that is similar as possible.

Q: How do I change the resolution, color, and refresh-rate on my Windows 98SE system?

A: Open the '**My Computer**' folder and select the '**Control Panel**' icon. Double-click on '**Display**' icon, then select '**Settings**' tab, and then choose '**Color Palette colors**' to change the <u>color</u> values. Adjusting '**Screen area**' to change the <u>Resolution</u> (screen image size). From the same tab click-on '**Advanced…**' to access the <u>Refresh-rate</u>.

Q: How do I change the resolution, color, and refresh-rate on my Windows NT system?

A: The procedure is basically the same as the Windows 98SE system. Except that you must select '**Test**' then click '**OK**', so that the changes can take affect.

Q: TV-OUT is grayed out on my TV-OUT capable nVidia Geforce4 MX graphics card. How can I fix it?

A: 1. The nVIDIA Geforce4 MX graphics card needs to see real 75 ohms AV input. However, not all TVs have this, and some have a switch labeled '**Terminate**' next to the AV inputs to turn the 75 ohms off to allow more than one TV to be connected. If you are having this problem, especially with a smaller or portable TV, then try another TV to see if this is a problem, or check for a '**Terminate**' switch.
   2. According to motherboard vendor this may also be caused a problem by motherboards using a linear voltage regulator that does not supply enough voltage to the nVIDIA Geforce4 MX graphics card, and therefore there is not enough voltage to maintain TV-OUT.

Q: My nVIDIA Geforce4 MX graphics card keeps on locking up. How can I fix it?

A: 1. Are you over clocking either nVIDIA Geforce4 MX graphics card or your processor? If you are, try clocking back to normal, leaving the case lids off and under clocking and see if it fixes the problem. If it does, you need more cooling.
   2. Have you assigned an IRQ to VGA in your BIOS? If not, do so.
   3. Have you got an IRQ conflict with nVIDIA Geforce4 MX graphics card and another card? The only device that can have the same IRQ is the '**IRQ Holder for PCI Steering**'. If so, try moving the card to another slot (in particular avoid the first PCI slot as this frequently is forced to share an IRQ with the AGP slot) or assigning a different IRQ to that slot in the BIOS.
   4. Are you running a virus checker in the background? Try disabling it.
   5. Try installing the latest AGP drivers for your motherboard chipset if you haven't got an Intel motherboard.
   6. If you have an '**AGP Driving Control**' setting in your BIOS, try switching it to '**BA**' or another value instead of '**Auto**'.
   7. If you have a VIA chipset, try enabling AGP4X. We have chosen to disable the AGP sideband transfer because there have been various system instability problems due to issues in the design of some motherboards.

Q: The system will hang up when I play 3D game in Win98SE system.

A: 1. Start ⇒ Programs⇒ Accessories⇒ System Tools⇒ System Information
   2. Tools⇒ DirectX Diagnostic Tool⇒ Display
   3. Disable '**Direct3D Acceleration**' to try.

Q: When I install the 2x.xx series of drives Windows 9x locks up at the bootup screen. How can I fix it?

A: Make sure your nVIDIA Geforce4 MX graphics card is not sharing an IRQ with any other devices. If you find that it is, try either moving the device into another PCI slot, or reassigning the PCI IRQs in the BIOS. In particular, the first PCI slot is frequently forced to share an IRQ with the AGP slot.

Q: If I set the nVIDIA Geforce4 MX graphics card as the primary card in the BIOS, my secondary PCI video card is not detected. How can I fix it?

A: Check in your C:\CONFIG.SYS file to see if you are loading EMM386.EXE. If you are, remove the line.

Q: Games stutter with my nVIDIA Geforce4 MX graphics card. How can I fix it?

A: 1. Go into the System Control Panel, then click on Device Manager, and then find your CD/DVD-ROM drive(s) and hard drive(s). Go into each one, click on Settings and check DMA. This enables UltraDMA.
2. Make sure that Video BIOS shadowing is disabled in your BIOS.
3. Make sure that your graphic card is not sharing any IRQs with another card - the only device that can have the same IRQ is the '**IRQ Holder for PCI Steering**'. If you find that the GeForce2 MX is sharing an IRQ, try moving the card that it is sharing the IRQ with to another slot.

Q: I get flickering textures in Quake 3 Arena and Windows 9x. How can I fix it?

A: Type the following at the console:
/r_ext_compiled_vertex_array 0
/vid_restart

Q: I can't get my system to work with AGP8X. It only can work in AGP4X.

A: 1. You must enable AGP in 8X mode in BIOS of motherboard.
2. You need to confirm motherboard have support AGP 8X mode.
3. You need to install the motherboard AGP driver.